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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,308	03/02/2004	Eric Graves	APLE.P0010C	3543

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EXAMINER

CUNNINGHAM, GREGORY F

ART UNIT	PAPER NUMBER
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2628

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/791,308

Applicant(s)

GRAVES ET AL.

Examiner

Greg F. Cunningham

Art Unit

2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications of application received 3/2/2004.
2. The disposition of the claims is as follows: claims 1 - 21 are pending in the application. Claims 1, 12, 17, 18 and 20-21 are independent claims.
3. The group and/or Art Unit location of your application has changed. To aid in the correlation of any papers for this application, all further correspondence should be directed to Group Art Unit 2628 (effective 06/06). Please be sure to use the most current art unit number on all correspondence to help us route your case and respond to you in a timely fashion.
4. When making claim amendments, the applicant is encouraged to consider the references in their entireties, including those portions that have not been cited by the examiner and their equivalents as they may most broadly and appropriately apply to any particular anticipated claim amendments.

Drawings

5. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
6. The drawings are objected to because Figure 4 shows three separate views and so should be labeled Fig. 4A, 4B and 4C. A proposed drawing correction or corrected drawings are

Art Unit: 2628

required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

7. The drawings are objected to because Figure 6 lacks directional arrows for CD-ROM (617). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

8. The disclosure is objected to because of the following informalities: On p. 10, line 16 ends with “may” most likely should be “many”. Appropriate correction is required.

Claim Objections

9. Claim 10 is objected to because of the following informalities: Supposedly claimed inventions are novel and therefore should ideally be worded in at least present tense. “Were” in line 3 of claim 10 should be “are”. Writing in past tense implies that part of the concept has already been invented! Appropriate correction is required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2628

11. Claim 2, is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The term "super-white" in claim 2 is a relative term which renders the claim indefinite. The term "super-white" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Super-white levels do not reveal the extent of white levels, see spec, p.4 lns. 20-22 and spec. p. 17, lns. 19-22 (brighter than white values).

12. Claim 3 recites the limitation "the Alpha channel", "the Y channel", the "Cb channel" and "the Cr channel" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

13. Claims 1, 12, 17, 18, 20 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The term "closely correlated" in claims 1, 12, 17, 18, 20 and 21 is a relative term, which renders the claim indefinite. The term "closely correlated" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention, particularly with the vast amount of science and mathematics for correlation functions pertaining to various fields of endeavor, (i.e. random variables, autocorrelation functions, self-correlation functions, cross-correlation functions).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1, 12, 17, 18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman et al., (US Patent Number 6,424,342 B1), hereafter Perlman.

A. Perlman discloses claim 1, “A method comprising: defining a new pixel type for the purpose of image processing [abstract];

updating codecs to support handling of images formatted in said new pixel type [col. 2 ln. 64 – col. 3 ln. 20; col. 14 ln. 60 – col. 15 ln. 8];

converting an image stored in a given file type into data formatted in said new pixel type [col. 5 lns. 35-39; col. 14 lns. 40-65]; and

processing said data formatted in said new pixel type using standard image processing routines, said new pixel type closely correlated to said given file type, said new pixel type containing all the components of pixels of said given file type, said standard routines designed for a color space different than that of said given file type and said new pixel type [in col. 14 ln. 40 – col. 15 ln. 8]” [as detailed].

Although Perlman discloses pixel display parameters, *supra*, it would have been obvious to one of ordinary skill in the art at the time of the application to have routines designed for a color space different than that of said given file type and said new pixel type.

Art Unit: 2628

B. Perlman discloses claim 12, “A method for processing an image of a given file type comprising:

converting said image into data formatted for a new pixel type, said new pixel type closely correlated with and having all the components of pixels for said given file type [col. 5 lns. 35-39; col. 14 lns. 40-65]; and

processing said data formatted in said new pixel type using standard image processing routines, said standard routines designed for data having different components of pixels than said new pixel type and said given file type [in col. 14 ln. 40 – col. 15 ln. 8]” [as detailed].

Although Perlman discloses pixel display parameters, *supra*, it would have been obvious to one of ordinary skill in the art at the time of the application to have routines designed for data having different components of pixels than said new pixel type and said given file type.

C. Per independent claims 17, 18 and 20, 21, these are directed to an article and apparatus, respectively, for performing the method of independent claims 1 and 12, and therefore are rejected to independent claims 1 and 12.

16. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman as applied to claim 1 above, and further in view of Pritchett; Scott K., (US Patent Number 6,147,772), hereafter Pritchett.

A. As per claim 2, “A method according to claim 1 further comprising: enabling a user to select white levels and super-white levels in said new pixel type.” is disclosed *supra* for claim 1 and in col. 15, lns. 42-49. However Perlman does not appear to disclose “further comprising: enabling a user to ... new pixel type”, but Pritchett does in col. 7, lns. 16-30. Wherein Fig. 2 depict an extended color space including extended white space.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply graphical image data disclosed by Perlman in combination with extended white space levels disclosed by Pritchett, and motivated to combine the teachings because it would provide for color space conversion that preserves the quality of the original image with respect to the viewer without the undesirable effects introduced by conventional systems and that allows the original image to be subsequently recovered without loss of information as revealed by Pritchett in col. 2, lines 40-45.

17. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman as applied to claim 12 above, and further in view of Acharya, (US Patent Number 6,356,276).

A. As per claim 13, “A method according to claim 12 further comprising: converting said processed data back into format of said given file type” is disclosed supra for claim 1. However Perlman does not appear to disclose “further comprising: converting ... said given file”, but Acharya does in col. 12, lns. 27-29 at “If, according to one embodiment of the invention, the image is in 12-bit YCrCb format, it may need to be converted back to an RGB format.”

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply graphical image data disclosed by Perlman in combination with back conversion disclosed by Acharya, and motivated to combine the teachings because it would be desirable to design and provide a technique that integrates the operation of color interpolation and color space conversion into a single operation as revealed in col. 4, lns. 10-13.

B. As per claim 14, “A method according to claim 13 further comprising: decompressing said image prior to said converting if said given file type stores component data in a compressed form” is disclosed supra for claim 12. However Acharya does not appear to disclose “further

Art Unit: 2628

comprising: decompressing ... in a compressed form”, but Perlman does in col. 3, lns. 11-26 at “As compressed graphical image data is provided to the graphics engine of the invention, the compressed data is first mapped to pixel locations of the display screen and then decompressed. Conducting the step of mapping the graphical image data before conducting the decompression step provides the advantage of eliminating the need to store decompressed image data in a random access memory device before the data is mapped to pixel locations. In addition, conducting the mapping step first can allow some of the compressed graphical image data to remain compressed. For example, if, according to the mapping step, a portion of the compressed graphical image data is not to be displayed on the display screen, that portion does not undergo decompression. This feature of the invention significantly reduces the amount of decompression otherwise required in many circumstances.”

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply graphical image data and compression disclosed by Perlman in combination with back conversion disclosed by Acharya, and motivated to combine the teachings because it would be desirable to design and provide a technique that integrates the operation of color interpolation and color space conversion into a single operation as revealed in col. 4, lns. 10-13.

C. As per claim 15, “A method according to claim 13 comprising: compressing said processed data after said converting back of said processed data into the format of said given file type” is disclosed supra for claim 12. However Acharya does not appear to disclose “further comprising: decompressing ... in a compressed form”, but Perlman does in col. 3, lns. 11-26 at “As compressed graphical image data is provided to the graphics engine of the invention, the

Art Unit: 2628

compressed data is first mapped to pixel locations of the display screen and then decompressed. Conducting the step of mapping the graphical image data before conducting the decompression step provides the advantage of eliminating the need to store decompressed image data in a random access memory device before the data is mapped to pixel locations. In addition, conducting the mapping step first can allow some of the compressed graphical image data to remain compressed. For example, if, according to the mapping step, a portion of the compressed graphical image data is not to be displayed on the display screen, that portion does not undergo decompression. This feature of the invention significantly reduces the amount of decompression otherwise required in many circumstances.”

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply graphical image data and compression disclosed by Perlman in combination with back conversion disclosed by Acharya, and motivated to combine the teachings because it would be desirable to design and provide a technique that integrates the operation of color interpolation and color space conversion into a single operation as revealed in col. 4, lns. 10-13.

18. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman as applied to claim 12 above, and further in view of Tavor, (PGPUB-DOCUMENT-NUMBER: 20010014175).

A. As per claim 16, “A method according to claim 12 wherein said new pixel type includes Alpha, Y, Cr and Cb channels, said Alpha channel extended in range, said Y channel has a value of Black corresponding to zero, all said channels reordered to correspond closely with said standard routines” is disclosed supra for claim 1. However Perlman does not appear to disclose

Art Unit: 2628

“wherein said new pixel ... with said standard routines”, but Tavor does in para. [0047] at “The most common color model used in computer systems is RGB (red, green, blue), which involves three byte size components to indicate the level, from 0 (darkest or black level) to 255 (brightest or white level), of each individual color component, R, G, and B.” and in para. [0048] at “The dynamic range of the values of each individual color component, Y, U, and V, is 0 to 255, with 0 and 255 corresponding to the black level and the white level, respectively.”

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply graphical image data disclosed by Perlman in combination with black corresponding to zero disclosed by Tavor, and motivated to combine the teachings because it would provide for most effectively keying out a specific color of an input image as revealed in para. [0012].

19. Claim 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman as applied to claim 1 above, and further in view of Apple computer's QuickTime.

A. As per claim 10, “A method according to claim 1 wherein said given file type has pixels of type v408, and said standard image processing routines were designed for RGB data” is disclosed supra for claim 1. However Perlman does not appear to disclose “wherein said given file type has pixels of type v408, and said standard image processing routines were designed for RGB data”, but applicant's does on p. 10 of specification lns. 4-20

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply pixel types disclosed by Perlman in combination with v408 disclosed by applicant's reference to QuickTime, and motivated to combine the teachings

Art Unit: 2628

because it would work effectively in certain environments as revealed on p. 10, lines 12 of specification.

(Examiner's note: Suggest applicant define in detail v408 within claim 10.)

B. As per claim 11, "A method according to claim 10 further wherein said processing is confined to routines that are not color space specific" is disclosed supra for claim 10. However Perlman does go on to disclose, "further wherein said processing is confined to routines that are not color specific" in col. 9, lns. 22-29.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply pixel types and non specific color space routines disclosed by Perlman in combination with v408 disclosed by applicant's reference to QuickTime, and motivated to combine the teachings because it would work effectively in certain environments as revealed on p. 10, lines 12 of specification.

(Examiner's note: Methods or systems broaden via non-specificity are equivalent among similar processes of methods and systems.)

Double Patenting

20. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

Art Unit: 2628

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

21. Claims 1-21 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 6,707,459. Although the conflicting claims are not identical, they are not patentably distinct from each other because outstanding difference in the claims of the instant application can be found in the specification of granted patent number 6,707,459. For example, in claim 1 – new pixel type closely correlated to said given file type – found in abstract and col. 3 lns. 6-10; claim 2 – super-white levels – col. 4 ln. 19 and col. 9 lns. 58-60; claim 3 – re-ordering of said data – col. 4 lns. 5-9 and col. 5, lns. 21-25.

Allowable Subject Matter

22. Claims 3-9 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and administered to alleviate the double patenting rejection, *supra*.

Responses

23. Responses to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Art Unit: 2628

Inquiries

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory F. Cunningham whose telephone number is (571) 272-7784.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The Central FAX Number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Gregory F. Cunningham
Examiner
Art Unit 2628

gfc

6/23/2006